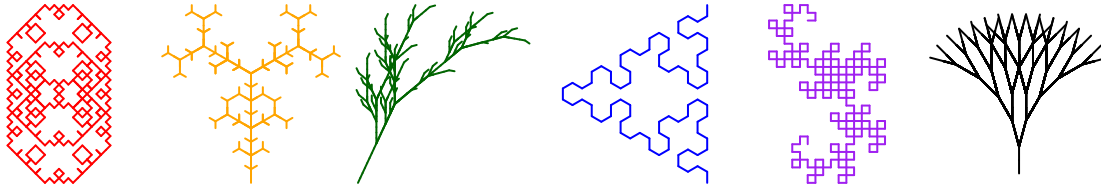


Lindenmayer Systems and Turtle Graphics



A Lindenmayer system (or L-system) is a set of rewrite rules. When these rules are repeatedly applied to a starting string (“word”), we can get complex results from simple rules. For example:

Start:

x

Rules:

A > AA

x > xAx

The start string and first 4 recursions:

0. x

1. xAx

2. xAxAAxAx

3. xAxAAxAxAAAAxAxAAxAx

4. xAxAAxAxAAAAxAxAAxAxAAAAAAxAxAAxAxAAAAxAxAAxAx

Practice

- Start
 - A
- Rules $A \rightarrow BA$ $B \rightarrow AB$
- Write the first 5 iterations of this L-system:

When these letters correspond to drawing commands (like move forward, turn 15° , or go back to last saved spot), we can get fractals.